FESSENDEN'S

SILK MANUAL

AND

PRACTICAL FARMER.

Devoted to the Culture of Silk, Agriculture, and Rural Economy.

VOL. I. BOSTON, FEBRUARY, 1836. NO. 10.

PUBLISHED MONTHLY BY

GEORGE C. BARRETT,

51 & 52 *North Market St., at the N. E. Farmer Office.*

T. G. FESSENDEN, EDITOR.

Fifty cents per year—twelve copies for five dollars—always in advance.

☞ Postmasters and Agents allowed 10 per cent on all subscribers.

BOSTON, FEBRUARY, 1836.

FACTS AND OBSERVATIONS RELATIVE TO THE CULTURE OF SILK.

The following was furnished by a friend, acquainted with the Culture of Silk, and gives much valuable information in a concise form.

STAGES IN THE LIFE AND LABORS OF THE SILK WORM.

Sickness begins in eight days after hatching, when the worms will refuse food for three days. They will again feed five days. Sickness will be renewed again for three days, and feeding will continue again five days. The worm undergoes a third sickness for three days, and feeds five days as before, and becomes sick three days for the 4th time. Resumes its feeding for five days and casts its skin for the last time in the caterpillar state. The worm now devours its food voraciously for ten days and commences spinning.

The different periods in the progress of the life and labors of the insect may be expressed in a tabular form as follows:

8 days old,
3 days sick,
5 days feeding,
3 days sick,
5 days feeding,
3 days sick,
10 days feeding.
10 days spinning.

ON THE CULTURE OF MULBERRY TREES, &c.

In England and countries of a similar temperature, seedling mulberries will not attain a greater height than three inches in the first year. In warmer climates their growth is much more rapid; so that in some parts of India large quantities are sown whose crops are mowed down in the ensuing season as food for silk worms. Sprouts again spring forth from the roots the same year, and are used for a second brood. The silk produced from the worms fed on those tender shoots is supposed to be readily distinguishable by its superiority over that produced when the insect is fed on the leaf of the full grown mulberry tree.—*Dr Lardner.*

SUCCESSIVE CROPS OF MULBERRY TREES AND SILK WORMS.

Notwithstanding the possibility, in some climates and countries, to raise two or three crops of mulberry leaves and of silk worms in the same season, we doubt whether such attempts will be attended with beneficial results in any part of New England. Even in warmer climates than ours the best judges prefer single to successive crops in a season. Dr Lardner observes as fellows:

"Count Dandola is of opinion that in Italy it is disadvantageous to obtain more than one crop in each season. He affirms that the mulberry tree cannot bear this constant stripping of its leaves without injury. 'All things considered,' says he, 'I am well persuaded that one of our good crops will be equal to any number that may be gathered elsewhere in a year.' It is observed that the quality of the silk obtained in Italy from their second *racolta* is always inferior to that from the first breed of worms.

"The Persian cultivators are accustomed, from a motive of economy to feed silk worms upon

boughs of the mulberry tree, instead of using the leaf separately, as is practised in all temperate climates. The leaves continuing attached to the branches, remain longer fresh, have a better flavor and are more nutritious, than those separately gathered, and the silk worms fed from the branches with less waste than when the leaves are strewn singly over them.

"In some parts of Italy and France, mulberry leaves are commonly sold by weight, in the market, and those persons who rear silk worms are often wholly dependant on this source for a supply. Judgement and experience are required in the purchaser, to enable him to make a proper selection of leaves, choosing such as are of a nourishing quality, and rejecting those whose sale would, from their greater weight, be more profitable to the vender. The interests of the two parties are consequently at variance. In other places trees are hired for the season; from four to six francs, according to its size and condition, being paid for the hire of each tree. Under equal circumstances an old mulberry tree always yields better leaves than a young one; and whatever may be the original quality of the tree, as it grows older the leaf will diminish in size, and will so materially improve that at length it will attain to a very excellent quality."

From the Baltimore Farmer.

In our 35th number we gave an article communicating the fact of the formation of a company in Queen Ann's county, in this state, for the purpose of carrying on the silk culture, and expressing the undissembled pleasure we felt at the information, and it will be seen by the article appended to this, that some patriotic citizens of the adjoining county of *Caroline*, are about to form another company with a similar object in view. To *them* we say, as we said to the public spirited gentlemen of the first named county, may God speed your good work; for *good* must that work be, that sets an example, which, if followed, will add millions to the productions of the state, and increase the means of living to its people, to an amount more than equal to all their wants, necessary or artificial.

Whilst we rejoice in the fulness of our heart at these auspicious beginnings near home, we say to the citizens of every district in the country, where there are genial soils and sun — and where are they not — to emulate the example here set them; they need not fear a glutted market — the markets of America, England and France, are all open, and offer the richest rewards which the husbandman could desire to urge him forward in this generous enterprise: nor should the *present* demand for raw silk, be taken as any criterion of what it may, by time and circumstances be raised, to. As the means of production and the supply may be augmented, so will the demand be increased. As each year rolls around, new uses will be found for the commodity, until at last, it will be used in a hundred ways not at present thought of. Already have the ever inventive genius of our mechanics substituted it to considerable extent for fur in the fabrication of hats; and as civilization forces its way to the distant west, and as the forests fall beneath the unerring stroke of the axe-man, will the supply of fur become diminished, and the consequent increase of the use of silk in the manufacture of hats be promoted.

What are the facts connected with the history of the growing of cotton in the United States? Who, a quarter of a century ago would have believed that it would have attained one hundredth part of the present amount of product and consumption. The demand has regularly kept pace with the rate of production, and this has been done without any diminution of pound value. Indeed the whole range of incidents involved in the culture of this beautiful and necessary article, are as extraordinary as they are interesting and instructive. And we would here invoke all who may desire to do an especial favor to themselves and to their country, to take counsel by the successful results of the culture of cotton, and enter at once with energy and spirit into that of the more profitable commodity of silk.

CULTURE OF SILK.

Throughout the range of nature there is not perhaps a more wonderful, a more mysterious phenomenon, than that which is presented in the natural history of the silk-worm. That an insect apparently so insignificant in the scale of animal creation — so destitute of every quality calculated to recommend itself to the eye of man — should be the producing cause of immense wealth, not only to individuals, but to the whole nations — is a fact so many centuries old, that it has ceased to be regarded as marvellous. Yet it is marvellous — and the closer we look into the matter, the more astonishing are the results manifested. From the inscrutable toils of this petty mechanic, which seems to exist, and to labor, and to die, for the sole and exclusive benefit of the human race, are furnished the most splendid habiliments which bedeck royalty and nobility — the most useful and durable fabrics worn by the great mass of civilized society. An imperfect idea of the annual worth of these labors may be gathered from the

consideration that in our own republic alone, the consumption of silk goods — the product of foreign worms — amounts yearly to *twelve millions of dollars*.

The time will come, unquestionably, when this fact, now so notorious, will seem more like fable — and when too, taking into view our undoubted resources and facilities, it will be placed among the severest reflections upon the character of the age. Ignorance of the subject must then constitute the only plea of those who would palliate the negligence hitherto prevailing. Or, if that excuse avail not, it must be said that a strange apathy — an unaccountable indifference — perhaps an unpardonable disregard of one of the highest and most important of our interests, has pressed upon the subject like an incubus, and prevented or prostrated every effort to arouse popular attention. Eager, and wide awake, as we proverbially are, in all matters involving prospects of profit, it must be confessed that in relation to the details connected with the growth and manufacture of this precious material, we have heretofore been — not 'slow and sure' — nor even 'slow and easy' — but culpably tardy.

According to an authentic estimate of the value of silk goods imported into the United States, the average sum of one dollar for every individual population, is annually paid for articles which we ourselves are capable of drawing from the very earth — thus sending twelve millions of capital unnecessarily out of the country, to reward the industry and enrich the skill of other lands. The ingenious caterpillar to whom we are rendering this extravagant tribute, and the plant which constitutes its food, may be reared and made to thrive in our own territory and upon spots otherwise useless, and even comparatively barren—in every respect as advantageously as in the most favored climate of the old world.

Perhaps from the absence of practical information touching the minutiae of this business—the common and erroneous impression that in the culture of the tree, and in the management of the insect, as well as in the manufacture of the filament, there is much troublesome intricacy — the latter notion a natural consequence of the former want of knowledge — these together have constituted probably the most formidable obstacles to the establishment and progress of this great branch of national industry. Involuntary ignorance may be pardoned but a wilful determination to remain so in relation to a matter of such acknowledged importance — when every temptation to inquiry is presented and when that investigation requires so slight an effort — amounts, in our view, to absolute wickedness. The smallest possible measure of faith, exercised on this subject to a very limited extent, will lead to the developement of facts and to the discovery of results satisfactory to every candid mind, and truly astonishing to all who shall thoroughly pursue this inquiry.—*Nantucket Inq.*

Price of Making Cocoons.—In most of our estimates of the profit of a mulberry plantation, we have put down the labor of making silk at three-fourths of its value, and in no instance less than one half. A few days since, a silk grower from Mansfield informed us that he was ready to contract for making cocoons at $1 a bushel, which is one third of the price they are now selling at the Silk Factory in this city. He remarked that he could furnish the help and make a fair profit at that price. From this statement it will be seen that foliage sufficient to make a bushel of cocoons is worth on the tree $2,00 and according to the quantity ordinarily consumed in making a bushel, 1½ cents a pound. Taking this as a basis of a calculation, a farmer may readily ascertain the income he may derive from this source without interfering with his other agricultural operations. The sale of mulberry foliage is a very important article of traffic in Europe and Asia, and we have no doubt will soon be in America. Every farmer who sets out mulberry trees will very soon derive a fair profit from them, though he may not be disposed to engage in the culture of silk. We hope no farmer will neglect to provide in this manner, a fund from which both himself and his posterity may draw at pleasure.

Sorting Cocoons.—Before commencing the operation of reeling, the reeler should sort the cocoons and place them in separate parcels, according to their quality. The qualities of cocoons admit of five varieties, and are known by the names of double cocoons — the *chiques* or skins — the fine — the demi-fine, and the satin cocoons. The double cocoons are those in which two or three worms have worked and enclosed themselves. They are larger than the single ones. The *chiques* or skin cocoons are softer and resist much less to pressure — the fine cocoons are those of which the surface presents a very fine and very close grain — the demi-fine are of a more loose and larger grain — the satin cocoons are those of a still inferior quality. Though cocoons are not ordinarily so particularly sorted; yet when it is intended to reel silk of an extra nice fibre, it is desirable they should be.

Before reeling they should also be cleaned from the floss and loose threads with which they are enveloped. This is done by having them picked off by children.

In picking or flossing cocoons, care should be taken that all the floss be preserved, as it may be appropriated to many valuable purposes. Boiled in soap and water, and afterwards carded with

common cotton cards, and spun on a common spinning wheel, it makes a good material for stockings, gloves, &c.

NEW WORK ON SILK.—The Editor of this paper has prepared a *Practical Treatise* on the CULTURE OF SILK adapted to the soil and climate of the United States. The work is illustrated by engravings, and contains over 100 pages. Price 50 cents.

SILK CULTURE IN NEW JERSEY.—A number of gentlemen of Warren county, New Jersey, have given notice of their intention to apply to the Legislature of that state, for a charter of a Company, with a capital of $300,000, for the purpose of raising the mulberry and manufacturing silk, in that county. This is a very encouraging beginning and as the soil of New Jersey is peculiarly favorable for the growth of the tree and rearing of the worm there is little doubt of their being followed by other gentlemen equally spirited.

ATLANTIC SILK COMPANY.—A number of the citizens of Nantucket have reeently associated for the purpose of engaging in the manufacture of silk, with ulterior reference to the production of the raw material. They have assumed the name of the "Atlantic Silk Company," and propose investing a capital of not exceeding $40,000. From an article on the subject in the Inquirer, it is manifest they have taken hold of the business with an energy and zeal which will ensure success. They have purchased a site for a factory, and are about erecting a building 60 by 30 feet. They have also contracted for an engine, machinery, &c., and expect to turn out in the course of the ensuing year upwards of three hundred yards of rich heavy fabrics per week.

BEAVER SILK COMPANY.—The silk business is "going ahead" in Pennsylvania. A company has lately been formed in Philadelphia by the name of "The Beaver Silk Culture and Manufacturing Company.—The capital stock of the Company is 50,000, and a tract of land near Beaver Falls in Western Pennsylvania, has been purchased for their operations. Samuel C. Atkinson, Esq., editor of the Saturday Evening Post, has been elected President of the Company.—*Silk Culturist.*

THE MANUFACTURE OF SILK.—We have heretofore had occasion to speak of the success with which the power loom had been applied by Mr Gay to the weaving of Silk. But the only experiments which had then been made, had been made upon an old and very awkwardly constructed cotton loom. Within the last three weeks, one of the new looms, with improvements by Mr. Gay, adapted to the manufacture of silk has been put in operation upon a piece of fine white Pongee Handkerchiefs, three quarters wide. This loom has put at rest all doubt that might before have been entertained in relation to the practicability of weaving silk in this manner. We have several times made the observation by marking the piece with a pencil, and the loom has woven an *inch and a half* of this fabric in *one minute.* Others have at different times witnessed the operation of the loom and their observation of the result has been precisely the same. The speed is regulated at *one hundred and forty* strokes of the lathe per minute, and the fabric which it turns off is in no manner inferior to the imported article.

The girl who attends it is an experienced cotton weaver and one of the smartest in the country. She affirms that she can without difficulty tend four of them, and turn off *one hundred* yards of goods per day. What will Louis Phillipe say to that?—*Providence Journal.*

NATIVE SILK.

A specimen of sewing silk was shown to us a few days since by a gentleman of this town, which was produced on the farm of Mr Adams, of Walpole, Cheshire county, and manufactured by Mrs. Adams. It was reeled from the cocoons on a common hand reel and spun on a common spinning wheel. Mrs A. was aided in the process by no other knowledge than that which she had acquired from reading. For smoothness, evenness of texture and strength, it is not surpassed by any which we have ever examined. We have a sample of the silk in our possession, which we shall be glad to exhibit to any one who may have the curiosity to inspect it.

We are further informed, that the trees from which the worms are fed, are but four years from the seed.—*N. H. Argus.*

Have you made up your mind with regard to entering into the mulberry culture? If you have not, let no consideration deter you from it longer than the coming spring. A few dollars laid out in white mulberry seed, and morus multicaulis cuttings, if these should be judiciously cultivated, would lay the foundation of future independence. We wish the farmer in moderate circumstances to bear in mind that a *single acre* in mulberries, will clothe and educate his children; that five will enable him to live sumptuously, and lay by enough in ten years to leave his family independent.—*Farmer and Gardener.*

From the Silk Culturist.

HEDGES.

We commend the following letter to the attention of cultivators of the Mulberry. The method of cultivating in hedges, we think the best that has been attempted, and have little doubt of its ultimately being universally adopted. The mul-

berry is cultivated in this manner in the form of fence and field hedges. On the borders of fields hedges may be set out for the double purpose of fence and foliage, and the interior of fields is often covered with hedges, at suitable distances from each other to admit the passage of a hand cart or one horse waggon, for the purpose of gathering the foliage and transporting it to the cocoonery. The method of propagation is much the same in both cases, and is done either by transplanting the plants from the nursery, or sowing the seed where it is intended to make a hedge.

To make a hedge by transplanting from the nursery, take plants one or two years old and set them at the distance of eighteen inches apart, or, if it be intended to make a thick set hedge, at the distance of one foot. Cut off the tops at four or six inches from the ground, leaving two buds opposite each other, and removing the rest. This causes the stock to have two vigorous branches the first year. The next spring, cut one of these two branches on the same side, at twelve inches from the ground, in such manner that each plant may have a long and a short one, but horizontally on the same side also one after another, all the branches, and fasten them with cords or withes, so that they may form a line parallel with the earth, and leave the entire branches untouched. At the commencement of the third year, the plants will have branches to form a hedge.

The height, form, &c. of a hedge may be regulated, according to the taste or convenience of the cultivator, by cutting off the branches, when covered with leaves, and feeding the silk worm. Some cultivators are permitting standard trees to grow up out of their hedges at the distance of ten or twelve feet from each other. This is doubtless an improvement, as by cutting away the hedge, an orchard of standard trees would be left, should it ever be found desirable so to do. Rails might also be inserted into the standards, and a good fence easily made. To make a hedge from the seed it is only necessary to sow the seed and then treat the plants in the same manner as if transplanted from the nursery.

With regard to the inquiry of Mr Paige respecting engaging the services of some person of experience in managing the silk worm, we can only say that we have numerous applications of the same kind, which as yet we are unable to supply. But we will here take occasion to say to all such persons, male or female, who may not be otherwise engaged, that by making the fact known to us, we can refer them to gentlemen, who would gladly avail themselves of their services the coming silk season, at wages with which they would be satisfied.

ALBANY, Jan. 4th, 1836.

F. G. Comstock, Esq.,

SIR:—I have for the last four summers engaged in the culture of the mulberry. My object originally was, solely for the purpose of hedging; and I shall continue it, but if eventually my hedges can be turned to account, by the aid of the silk worm, I shall not hesitate in making them contribute to that object. I have already more than a mile in hedge, and about two acres in nursery; and seedlings of last season, sufficient to add at least another acre to my nursery. In hedge and nursery, of two, three, and four years old, I have about 45,000. If I could procure a female of sufficient experience to take charge of the silk worms, I think I would make the experiment next summer, I think my trees would furnish food for 60 or 70 thousand worms, perhaps more. There is no one in this part of the country who has any practical knowledge of the management of the worm.

May I be permitted to ask, if you can refer me to any one, whom I could probably employ for that purpose.

Respectfully, Your
Obedient Serv't.

JNO. KEYES PAIGE.

EFFECT OF BONE MANURE ON CORN.

To the Editor of the Farmer's Register:—

Brookfield, Henrico, Nov. 6, 1835.

In a number of the last volume of your Register, a correspondent describes an experiment made by the application of bones as a manure for corn, the result of which, as reported, seemed to prove that corn derived very little benefit from their application. From long experience in the use of bones as a manure, and a knowledge of their highly fertilizing properties, I was induced to make a similar experiment on a small scale. During the last winter, I got the negroes on the plantation, for a small premium, to collect at their own convenience, a quantity of bones from around the neighborhood, and during wet or stormy weather, had them broke in a wooden trough with pestles shod with iron, into as small pieces as my time would permit, a small proportion of them being reduced to a powder. At the time of planting the corn, I selected four rows, forming an intermediate space between ground well manured from the winter farm pen, and ground not manured. On these selected rows, I applied the bones thus pounded, depositing a small quantity of the bones previous to planting the corn in each hill, afterwards dropping the corn, and covering the whole with the hoe, not deeper than any other part of the crop. At a very early stage of the growth of the corn, it exhibited a superiority over that growing on either side, and maintained that appearance

throughout the whole of the season, the difference being discernible at a distance. There were two stalks cultivated in the hill, at five and a half by three feet, the greater proportion of the stalks producing two good ears. Throughout the whole of the season it maintained a vigorous and rapid growth, and when the corn on both sides of these rows exhibited evident symptoms of having suffered injury from a short drought, the corn on these rows was apparently uninjured. In cutting and clearing off the corn, preparatory to seeding wheat, much of the general crop was very imperfectly matured, while the corn raised on the bone manure presented a much smaller proportion of imperfect ears. Circumstances prevented me, as I had intended, from ascertaining the exact difference of produce — but gentlemen who were competent judges, estimated that the produce from these four rows would exceed the produce from an equal number of hills from the farm pen manured land, by at least one third, and more than double that of the land which had received no manure. From the result of this experiment, I am satisfied that bones are a valuable manure for corn, if applied even in very small quantities.— The expense of them would be small, and they are much easier pounded, when performed as above stated, than gypsum, and the expense of collecting and hauling is very trifling. On every farm there are a greater or less quantity of bones scattered about, and in the vicinity of every village or city, they are deposited in large quantities, presenting anything but an agreeable or pleasing appearance, reminding the passenger at every step that he is, as it were, in the midst of a charnel house. How much better would it certainly be that the tiller of the soil should enjoy the full benefit of their enriching qualities, and that these animal remains which now present nothing but a loathsome spectacle, should be employed to beautify and fertilize the soil which once afforded them subsistence, and instead of presenting an eye-sore to their late masters, be to them a source of profit?

I regret that circumstances so occurred as to prevent me from having it in my power to present you with more practical results, than are above stated. As it is, I hope it may induce some one of your readers to bestow some attention on a means of improving their exhausted farms, within the reach of almost every farmer. I anticipate that the benefit which the wheat crop may receive from the application of the bones, will be as decided as has been that of these four rows of corn.

A. Nicol.

Mammoth Apple Tree.—We are indebted to a highly respectable gentleman of Hardy county, Va. for the following facts relative to a mammoth apple tree, on the farm of Capt. Daniel McNeil, of that county. Our informant says, he took the dimensions of this mammoth apple tree carefully and accurately, and found it to be 45 feet in height and 55 in breadth; circumference of the trunk 9 feet 4 inches. About seven feet from the root there are eleven branches, the average size of which are 3 feet 10 inches in circumference. But the most remarkable fact about it is, the quantity of fruit it bore the present year: one hundred and eighty bushels of apples were taken from it this fall. Four or five bushels, of such as were bruised and partially and entirely rotten, were left under the tree: and a good deal of its fruit must have been taken away by different persons through the summer and fall; so that the real quantity it bore must have been very near, if not quite two hundred bushels. The apples are very large. It stands near the South Branch, on very rich soil. I have been informed that it did not bear any fruit until after it was twenty years old. It grew spontaneously where it now stands, and, although forty years old, continues to grow.—*Romney Intel.*

Silk in Virginia.—We have recently received from Virginia, very large additions to our Silk Manual subscription list. One gentleman writes: "The people in this State are wide awake upon this subject; and great progress has already been made in the establishment of plantations of Mulberry Trees, &c." There is no doubt but that the Silk business will prove eminently successful in that State. We shall be glad to receive communications from that section, detailing its progress and prospects.—*N. E. Farmer.*

Great crop of Ruta Baga.—*Mr Holmes: As* it may be useful to report the produce of certain crops occasionally, in order to let people know what we are doing "down East," I wish to inform you that Mr Joseph Weston, 3d, of Bloomfield, raised during the past season on twentyfour rods of ground, 170 bushels, being if I mistake not, after the rate of *eleven hundred thirtythree and one third bushels* to the acre. What would friend Cobbett say to this, if he were alive now? If he who makes two spires of grass grow where but one grew before, is more of a benefactor to mankind than he who conquers nations — surely he who makes an acre of ground produce at the rate above mentioned, is deserving great commendation for his skill and industry.—*'S.' in Maine Farmer.*

To Drive Bugs from Vines.—The ravages of the yellow striped bugs on cucumbers and melons, may be effectually prevented, by sifting charcoal dust over the plants. If repeated two or three times, the plants will be entirely free from annoyance. There is in charcoal some property so obnoxious to these troublesome insects, that they fly from it the instant it is applied.—*Indiana Aurora.*

ADDRESS

Before the Massachusetts Society for Promoting Agriculture.

BY HENRY A. S. DEARBORN.

(Concluded from our Last.)

There are two chief modes, in which improvements are effected in agriculture: one, the introduction of new or valuable species, or varieties of the vegetable and animal kingdoms, and the other a more perfect theory in the science and a better application of labor to the art in all their diversified compartments. The latter includes the requisite implements, as well as the manner in which every kind of cultivation is to be conducted, and the great object of both is to obtain the largest amount of products, which the earth is capable of being made to yield, by the most approved management, and at the lowest possible expense.

So simple and common are these positions, so self-evident and familiar are they, that it may seem irrelevant as the utterance of truisms to repeat them. They were early proclaimed by Bacon, Tull and Evelyn, and have been emphatically illustrated by Coke, Young, Bakewell and Sinclair — names which will ever be illustrious in the annals of agriculture. Yet how little have they been regarded here, and how few among all those, who have spent their lives in cultivating the earth, can say, that they have attempted the fulfilment of the requisitions implied, although so indispensable to their own advancement. Routine has been more influential than precept, and custom has domineered over truth and reason. We have been quiescent pupils in the observance of what has been, rather than anxious inquirers of what should and can be done. The mind has been slavishly restrained by prejudice, erroneous example, and that dread of change, which has been so universal and so fatal to the improvement, rights, dignity and happiness of man. Something more, then, is required, than a mere knowledge of principles, to insure their salutary influence, and of duty, that it be well performed. There must be independence of thought, and freedom of action, with an energy of disposition which constantly aims at improvement and is never satisfied until it is reached. And where are we to look for the greatest display of these qualifications? where are they most certainly induced? Is it not in those climates which are embraced between the southern and northern extremes of the temperate zones, and in those localities too, where the soil is not naturally the most remarkable for its fertility, or the physical conformation of its area, the most favorable to the efforts of tillage; for there the greatest intelligence, genius, skill and industry are required to produce the desired effects; and it is most common, that in countries where these difficulties are to be encountered, the best farmers are to be found, and the most instructive, as well as valuable results are obtained. This arises from the constant demand of expedients, to surmount the numerous obstacles to complete success, which the asperities of the soil, the rigor of the climate, and the labor of fertilization, present; as impediments in this, as in all other pursuits, have a direct tendency to challenge enterprise, and create the means for overcoming them. Activity is thereby given to talents, ingenuity is roused, and that determination of character formed, which neither admits of impossibilities, yields to adverse circumstances, or halts in its course, until the object sought is attained.

But there never has been any thing great achieved where there were not difficulties to be encountered. It is thus that the noblest faculties of the mind have been wrought up to the exercise of their highest powers, and man to the display of his immeasurable resources. Every conception of an important truth is accompanied by the cheering belief of witnessing its verification; and the triumph over obstructions in its developement is as exhilarating to the philosopher and artist, as victory to the warrior. It matters not what is the exaggerated magnitude, or apparent insignificance of the inquiry, it cannot be prosecuted with any prospect of success, unless there is an ardent disposition, accompanied by that indomitable spirit of perseverance, which puts at defiance all hazards and all odds. Whether the object of accomplishment or investigation be the construction of a Roman aqueduct or the stringing of a lute, the geology of the globe or the anatomy of a beetle, the discovery of a new world or a new plant, there must be brought into vigorous action the highest powers of intellect and the most zealous determination of purpose. There is nothing valuable to man, or honorable to nations — not an addition has been made to the fund of intelligence — not a step taken in the progress of civilization, which has not been the result of intense thought and infinite research. It is one of the conditions of our existence — the fiat of Omnipotence — that to attain excellence in even the humblest vocation, there must be untiring industry, sanguine hopes, and great labor. What, indeed, were we but for that unquenchable thrist of knowledge which no acquisitions can abate — that restless demand for action, which is but increased by fruition, and that aspiring reach of imagination, which finding no terrestrial bounds, ranges from the farthest constellation in the zodiac to the realms beyond the skies — to an existence as illimitable as eternity, and an elevation transcendant as the archangels. Were we not thus created, and so endowed with an intuitive credence in the immor-

tality of the soul, the human race must have remained in a state of the most abject ignorance and degraded barbarism. It is the inspiration of divinity itself which animates and urges us on, in the interminable career of intellectual attainments and moral grandeur.

What is the biography of those mighty men who have illumined the past and the present, and thrown forward into the obscurity of the future the effulgence of their glory? Is it not the record of genius struggling with misfortune, and battling with prejudice and ignorance, to evolve some momentous fact, establish some fundamental principle in morals, proclaim some invaluable discovery in science, or perfect some brilliant experiment in art? The very temerity of their enterprise, the cold indifference of anticipated patronage, the desponding thraldom of penury, and that unwearied perseverance which knows not despair, are the alternate subjects of our praise and commiseration. Our admiration is constantly excited by that boldness of mind and that fearlessness of heart, which are neither smitten down by the iron mace of arbitrary power, the withering influence of fanatical persecution, or the discouragements of unrequited merit; that, "unaided, unfriended and alone," they rose superior to the storms of fortune, and became the ornaments of their age — the benefactors of mankind. It is from these causes that we honor the names, and dwell with such profound interest upon the characters, of Galileo and Tasso, Hampden and Milton, Watt and Arkwright, Rittenhouse and Fulton.

Let not the hardy sons of New England, then, doubt of success in the application of efficient means to ameliorate the condition of their tillage, either from the rudeness of their climate, or the less favorable character of their soil, compared with the fertile savannahs of the South and the beautiful prairies of the West. They have shown what the Saxon blood can achieve, in the battle field and on the deep, in science and in the arts, in commercial adventure and mechanical skill, and they will not incur the stigma of degeneracy, by failing to rival their own lineage of another hemisphere, in that pursuit where they have attained such marked distinction.

It should be recollected, that it is not the geographical position or sterility of our inheritance, which have thrown us in the rear of other nations; for that vast and favored region which lies under more propitious skies, in the other extremity of the Union, is not in advance of the North.

There are many causes which have retarded agricultural improvements throughout the United States, other than the natural difficulties which are to be encountered. None, however, have operated more unfavorably, than the indifference which has too generally prevailed in relation to the subject, but more especially among those who, from their ample means, distinguished attainments, elevation of character, and the time which they might devote to experimental inquiry, could render such essential service, both by their practical operations and the powerful influence of their example. There are, it is true, illustrious exceptions to this lamentable and inexcusable neglect of the noblest pursuit in which man can be engaged, when taken in the widest scope of its intellectual, moral and physical influence.

Strenuous and commendable exertions have been made in many of the States, to induce a better disposition. This society bears upon its roll of members, the names of individuals, whose long and faithful public services cannot be too highly appreciated, whose patriotic ardor has experienced no retiring ebb, and whose munificent contributions, lessons of instruction and practical labors will be enduring monuments of their fame. Other portions of the republic can boast of like benefactors. Still there is much to be done; and if there is an earnest and generous co-operation, much can be accomplished by individual enterprise, numerous and active associations, and governmental encouragement. We have already experienced, in this State, the beneficial consequences of all these influences. It is to be traced in our gardens, orchards and fields — in our flocks and herds, our farm-houses and villages, from the bleak shores of the ocean to the luxuriant banks of the Housatonic.

Within a few years the occupation of a farmer has been elevated in general estimation; a residence in the country has become more desirable among those who have accumulated fortunes in other pursuits, and a taste for useful and ornamental culture evinced, which are full of promise for the future. But to rival other nations, there must be a more thorough change effected in public opinion. Here, unfortunately and inexplicably, the fashion has been in favor of congregating in large towns and cities, as well among such as have been reared or acquired fortunes there, as those who were born and reached affluence in the interior; while in England the reverse has been the universal taste. There the nobleman and commoner, the statesman, orator and poet, the generals of armies and the admirals of fleets, the merchant and manufacturer, and men of fortune and intelligence in every rank and station, consider the country not merely the most desirable, but the only proper residence of a gentleman. It is, in fact, an indispensable prerequisite to the assumption of that character, and obtaining the position in society which it commands, while the towns and cities are deemed but as temporary abodes, or as the places where means may be acquired by such as do not inherit an estate, for indulging, at some future period, in the comforts, honors and luxuries of a country life. It is to

this enlightened sentiment that may be traced all that there is of freedom in that flourishing empire. It was in consequence of this condition of society, that civil liberty was there so early established, and has been so gloriously maintained, while it has either never been enjoyed, or been speedily eloven down, in all the other portions of the eastern continent. It was the bold and independent land-holders who compelled the tyrant John to sign the great Charter of England; and they have stood ever since, in the midst of the nation, a colossal political Janus — opposing, with stern defiance, the attempted encroachments of the monarch on the one side, and restraining the licentiousness of the stormy multitude on the other — obliging each to respect the Constitution and the laws. The proprietors of the soil have ever prided themselves in participating in the useful avocations, comforts, embellishments and amusements of a country life. There they expend their vast incomes in a manner which gives the greatest encouragement to rural industry. The experiments which they have made in field cultivation, for improving the breeds of domestic animals, extending the bounds of horticulture and ornamental planting — their liberal expenditures in the erection of private and public edifices, in the construction of roads and canals, and their generous endeavors to alleviate the condition, elevate the character, and promote the prosperity and happiness of all classes, in their multifarious vocations, and to advance the public weal, have had a powerful tendency to excite emulation, and give an activity, determination and elevation of character to the entire population, unprecedented in the annals of the world. There we behold the indispensable and useful, studiously combined with the ornamental, from the baronial establishment to the thatched roof cottage. A taste universally prevails for giving either a more magnificent, picturesque, beautiful or neat appearance to every estate, while the necessary and profitable labors receive the most careful consideration and exact attention. The refinements of the arts are blended with all the possible comforts of each habitation, whether it rises in antiquated battlements, from the heights of a princely domain, or is the dearly cherished home of him, who is but the tenant out of a rood of land.

What more interesting inquiry can there be presented to the statesman, than the intimate connexion which exists between the political and agricultural histories of England. Are they not striking illustrations of the reciprocal influence of each, upon the character and condition of the people, in their domestic and national relations. We have only to look into the annals of the past, and examine the present condition of Great Britain, Spain and France, for a full solution of the problem, how and why it is, that the two latter are so far in the rear of the former, in their institutions of government, and the general aspect of the country.

In Spain, the rich proprietors of the soil were compelled to live at Madrid, from an apprehension of the sovereign, that their residence in the midst of their numerous tenants would be dangerous to his power; and the disastrous consequences have been despotism, an ignorant and impoverished population, and an uncultivated kingdom. In France, especially after the accession of Henry IV. to the throne, if the nobles were not required to abandon their estates to the management of the peasantry, they were induced to concentre round the court, from the splendor with which it was maintained, the prestiges which deluded the ambitious, the stations which were conferred on many of the most powerful, and the hope of royal favor in all. If the country was not as badly cultivated as that beyond the Pyrennees, the people were nearly as impoverished and degraded in character.

How often, in our day, have we seen those nations convulsed by revolution, when the only measure required for producing a change of government, or of dynasty, was the unfurling a new banner on the Palace Real, or the Thuilleries. Paris and Madrid, like Rome, when in the plenitude of its glory, have each become the state of their respective kingdoms, insolently uniting the prerogatives of the senate and the forum, and whoever can wield the physical and moral power of either, may dictate law to all the other provinces, as to so many distant colonies.

How different is the situation of Great Britain. The tower may be stormed, the palace of St James razed to the ground, and London controlled by a mob, the myrmidons of a tyrant, the army of an usurper, or the legions of invasion, — still England would no more be conquered, or its government subverted, than by the destruction of Dover castle, or one of her ships of the line. Her mighty power is in the owners and cultivators of the soil scattered broad cast over the whole surface of the island, where every yeoman is a champion of liberty, and every house a fortress. There the whole people must be consulted for change or reformation, and every gallant Briton must be cut down in battle, or subdued by overwhelming numbers, from Cornwall to Caithness, before the government can be abrogated, or the nation yielded up to foreign conquest.

Who will ask the cause of this intense attachment to their homes and firesides, — of this lofty and ardent patriotism, when there is not an acre of land in England, that has not been rendered famous in history, or dear to the inhabitants by some remarkable event, some deed of valor, some

monument of art, or some developement of mind. Every hill top and vale, every forest, grove and glade, — the ocean which bathes its rock bound shores, — each island, river and stream, each sequestered dell and shaded fountain, — the daily life and evening pastimes, from prattling childhood to hoary age, — all, all are embalmed in the traditions of England. Her literature is redolent of that captivating scenery which nature and art have rendered so admirable; and the glorious feats of war, the splendid achievements of genius, and taste in peace, — with the names of her illustrious men, have been immortalized by her gifted bards, the undying echoes of whose thousand harps are yet heard in every passing breeze, and make vocal even the desert stillness of the star-lit night. These have rendered the whole island precious in the sight and memory of Englishmen. To them it is, indeed, a holy land, and ere it can become the prize of conquest, like Jerusalem, it must first be made desolate.

Knowing what has been the salutary influence, in one nation, of comingling wealth, intelligence, and industry over the entire surface of a country, should we not hasten to follow the example. It is an axiom in morals as well as physics, that well authenticated facts constitute the elements of those theories, by which general truths are evolved and principles established. In the history of the past then, we should behold mirrored the future; and if it is not reflected with that distinctness of outline and accuracy of detail, by which every object can be readily recognized, — still, the shadowings forth are so palpable to the philosophic eye, that they are confidently proclaimed as approaching realities; and thus, the revelations of exalted intelligence assume the imposing character of prophecy, when in truth they are but the inductions of reason, from the accumulated facts of ages.

The agricultural resources of Massachusetts are not inferior to those of Great Britain. The soil is naturally as fertile, and capable of being rendered as productive. All the cereal grains, vegetables and fruits there raised can be here cultivated, and the latter more perfectly. We have in addition maize, one of the most important, if not the greatest staple of New England, and silk is being successfully introduced, — a product, which is destined to be of as much consequence to the proprietors of land, as that of their flocks, and may rival the vast cotton crop of the south in value. Our domestic animals if not now generally equal, are rapidly becoming so. The facilities of intercommunication, by good roads, canals and rail ways are increasing in a manner which promise especial benefit to the farmers of the interior. Their industry will be encouraged, their prosperity advanced, and a more cheering aspect be given to large portions of territory, which have been unable to compete with more favored localities, from the distance of a market and the enormous expense of transportation. But those terrestrial comets, which are traversing every star in our political system, and attract the gaze of the astonished world, as much as that, which now blazes in the heavens, will have an influence on national prosperity more beneficial, than that of the other was ever deemed baneful. By their potent agency distance has become a mere technical term of geographical illustration, and time has been substituted as the only true measure of the space by which places are separated, as well as that which divides events. It is of no moment what are the ranges of mountains, extensive plains, vast rivers and capacious lakes, which lie between the emporium of demand and the region of supply, — the steamboat and rail roads have given them a juxtaposition of existence.

The tide of emigration will be diminished, in proportion as the demand for labor is increased; and that it must is inevitable, when every water fall becomes the site of a Lowell and a Dover, which it requires no gift of prescience to announce, will be realized at no very distant period. Commerce, navigation, manufactures and the mechanical arts have received an impulse, throughout the north, which cannot fail to be experienced in every department of rural economy. Instead, therefore, of seeking employment in distant regions, the sons and daughters of New England will rejoice to dwell among the green hills of their own native land, where repose the hallowed ashes of their adventurous ancestors. If it should be urged that our population is even now too dense for the successful enterprise of the rising generation, it may be proper to inquire what number of inhabitants are maintained on the soil, in other and not more favored portions of the globe.

In England, where there is still so much land unsubdued by cultivation there are over two hundred and seventy persons to the square mile, which would give to Massachusetts more than two millions of inhabitants, instead of the six hundred thousand which it now contains.

By a census of the Chinese empire taken in 1813, the population, all of whom are subsisted upon the products of their own soil, amounted to 370,000,000; but enormous as it seems, the number to the square mile is not so great as in England. There are, however, large provinces whose inhabitants are so numerous that they average four, five and six hundred to the mile; and there is one, whose area is nearly five times that of this State, which has seven hundred to the square mile, which would give us 5,460,000. But as still more conclusive evidence of how many persons can be supported from the culture of the soil alone, there is an island on the eastern coast

of China, which contains only one thousand square miles, being less than a seventh part of this State, which has a population of 400,000, or 400 to a square mile. There is not a town upon it, the inhabitants living in hamlets and single houses scattered all over the surface, and the only articles cultivated are rice, cotton, millet, and culinary vegetables.

The difference between the number of inhabitants to the square mile in the United States and that of China is still more striking, as in the former there are only six while in the latter there are 268. If, therefore, our whole country should be as thickly populated, the census would be 589,600,000, and if the increase should continue in the ratio which it has done, during the last forty years, it would require only 125 for this vast accumulation, a period, but little exceeding twice that of our brief existence, as an independent nation.

If our climate is as congenial, our soil as teeming, and our skies more bright, why is it that a country life is not so fervently desired, — so much the theme of universal disquisition, and so much the object of unqualified admiration, as in other and far less propitious lands? Where, under the broad heavens, have been more lavishly bestowed whatever man can ask of a beneficent Providence, to supply his wants, administer to his comforts, and insure his felicity?

The topographical features of Massachusetts are more diversified, more interesting, and can be more speedily and perfectly embellished by cultivation, than even the northern Hesperides. The state is traversed in all directions, either by majestic rivers or copious streams. Lofty mountains, from whose rugged flanks gush forth perennial springs, and beautiful hills, clothed with forests to their very summits, give grandeur to the scenery; picturesque vallies everywhere invite attention, and promise as smiling and happy aspects as those whose loveliness is preserved in Grecian song; innumerable lakes, spangled with verdant islets, and floral stars, are scattered over the whole area of our territory. The sea coast abounds in capacious bays, broad estuaries, commanding promontories, and beetling cliffs; and in addition to our catalogue of superb forest trees, there is a profusion of shrubs, and wild flowers, which are so unrivalled in variety and splendor, that they constitute some of the most choice collections in the conservatories, sumptuous gardens and rural plantations of Europe.

The common idea associated with a residence in the country, is that of profit, — that an income should be realized from all expenditures there made. But why, it may be asked, make this distinction, so unfavorable in its effects, to the prosperity and improvement of the country? Are the magnificent edifices, costly furniture, and luxurious indulgencies in cities and large towns, sources of income? Are they not, rather, intended to administer to the comfort and gratify the taste of the proprietors, without any regard to the cost, or any expectation of revenue? Why then should it be urged, that such investments should yield an income, because the location is on the borders of a river or stream, in the midst of a forest, or embowered in some secluded vale? The answer is difficult. Yet, on the other hand, it can be shown that a less extravagant expenditure in the country will produce infinitely more interesting and imposing results. It is not in buildings that money should be expended. The more simple and neat their structure, the better will they comport with our laws for the distribution of property, the genius of our government, and the habits of the people. Here architectural taste should be guided by economy. It is in the improvement of the grounds which surround the establishment, that is so much required, to render the country desirable as a place of residence. Here it is that wealth and intelligence and taste can do so much, — can produce such striking effects, and contribute more to the enjoyment of life, than it is possible to accomplish in the midst of a city, even by the lavish expenditures of a Semiramis.

Is not a garden, extensive grounds, umbrageous walks, verdant lawns, and sparkling cascades, quite as interesting objects, as the massive piles of brick and stone, which are wedged in continuous ranges, on the thronged and dusty avenues of a metropolis. Is not the distant landscape, whether radiant in the rich and various tints of vernal luxuriance, or clad in the gorgeous draperies of autumn, — the melodious concert of the birds, — the sunset splendors of the western sky, — the congenial serenity of summer's bland and dewy eve, —

> The breezy call of incense-breathing morn,
> The cock's shrill clarion, and the echoing horn, —

quite as elevating to the mind, soothing to the soul, and congenial to the heart; as sublime and inspiring as "the stir of the great Babel," and the deafening surge of that living deep, which resounds through all her gates?

Refinements of all kinds have a powerful influence in elevating the character of mankind, by enlarging the sphere of observation, curbing the out-breakings of the passions, fostering private virtue, and improving the public morals; and to prescribe the line of demarcation, within which taste shall be restrained, is as preposterous as to establish the limits of intellectual attainments. Every amelioration which has been made from the rudest, wildest, and most savage condition of the human race, may, with as much propriety be denounced as superfluous and extravagant. It is

the decree of omnipotence, that nations shall advance or retrograde, — that man shall rise or fall, from every point of time in his existence. But there is a consideration by which we must be actuated, in whatever we undertake, far above the attainment of the object sought. The means to be employed, the labor bestowed, the excitement produced is of infinitely greater consequence than the advantage of actual achievement. The latter is temporary, and often of little moment, while the former are of universal benefit and abiding influence. There are results of mightier import than those of mere acquisition, which are to be sought in the excitement, which is given to the most dignified attributes of the mind and the heart, and in those manifestations of genius, talent and enterprise, which the study, pursuit and exertion unfold. Education, instead of being confined in its scope and duration, is thus made co-extensive with individual existence, and the exalted characters which are formed in this rigorous school of intellectual discipline, are for all nations and all time. There is a moral grandeur in their lives, which renders them perpetual examples for emulous imitation, and the salutary effect on the human race, is as universal as the admiration in which their distinguished benefactions are held. Man can only estimate his own natural resources by experiment. We know not their extent or proficiency, until placed in those trying exigencies, those self-relying positions, where they become indispensable for immediate extrication, or to give assurance of ultimate success. It is from repeated trials of strength, that the eagle launches forth upon the tempest, from the lofty eyry of the mountain cliff, with the fullest confidence in the sustaining power of its wing, in the longest, highest and most daring flight.

If the principles which have been assumed are founded in truth, and the facts which have been alleged for their illustration are deserving of credit, why should there not be changes produced here, in relation to a subject, in which every citizen is so deeply interested, corresponding with those which have appeared in other nations?

May we not, then, confidently hope, that at no very distant period, the taste which has hitherto so unfortunately prevailed, will be reversed, and the country become the admired residence of those, who are most able to improve its natural features, by the assistance of the arts. There it is, that virtue and patriotism, benevolence and hospitality, philosophy and religion, innocence and poetry have most delighted to dwell. It was on the summits of mountains, or in the awe-inspiring shadows of the deep forest, that the ancient divinities were worshipped; and how much more appropriately are they the true temples of the living God; for where can man more fitly pour out his aspirations and present the offerings of gratitude and praise, than when standing under the blue vault of the firmament, amidst the sublime and glorious works of creation.

(From the New England Farmer.)

INDIAN CORN.

T. G. Fessenden, Esq.—Dear Sir: In December, 1834, you published in the N. E. Farmer a communication from me, concerning a species of Indian corn, which I had planted the preceding season, the seed of which I had procured of Judge Buel. Its chief recommendation, in my estimation, resulted from the fact, that it came to maturity about a fortnight earlier than any kind of field corn which the farmers in my neighborhood were accustomed to plant; thus anticipating the early autumnal frosts, and enabling me to sow my corn land with wheat in tolerable season. I expressed the opinion also, that it had been as productive as any other corn which I had ever planted; but as I had tried it but once, I did not feel so confident of its productiveness, as to commend it on that account. I have planted the same kind of corn the past season, and no other; and the result has fully equalled my expectations. I was able to gather my corn leisurely and finished sowing my corn and potato ground by the 3d of October. In former seasons, with a different species of corn, I was always hurried, and was seldom able to finish sowing wheat till about the middle of October, and in some seasons, not until after the 20th. Wheat sown so late, is more liable to blast, and is more exposed to be winter-killed, than that which is sown earlier, and has opportunity to get well rooted before the ground freezes up. Late sown wheat will sometimes produce a fair crop, but success is so uncertain, that it should be avoided when practicable.

I have taken some pains the past season to ascertain the productiveness of this corn, with some degree of certainty. In order to try the experiment, I selected a piece of ground, which, by actual admeasurement, contains one acre and twelve rods. This ground was planted the preceding year, about one half of it with potatoes, the other half with corn. This selection was made, not from choice, because I do not approve of planting the same ground for two successive years, and more especially with the same kind of crop. The result of this experiment shewed evidently that it is bad husbandry to plant the same ground twice in succession with the same crop, — for the corn on that part of the piece where corn grew the preceding year, was not so well eared, nor were the ears so large, as on that part which had been planted with potatoes.

In the beginning of May, twelve loads of coarse manure from the barn yard, were spread upon the

land, and it was then well covered under a furrow of five or six inches deep. Eight loads of fine manure, composed chiefly of earth that had been deposited in a low spot in the yard the preceding summer, were then spread upon the land, when it was harrowed with a light seed harrow, till the surface of the ground was well pulverized and the fine manure was mixed, and partly covered with the earth. The ground was planted on the 13th of May, in rows of three and a half feet asunder, with a space of two feet between the hills. The seed was soaked about 12 hours in warm water, mixed with plaster, planted five kernels in a hill, and at the first hoeing, thinned out, so as to leave but three stalks standing in each hill. The corn was hoed three times, and the last hoeing was performed early, about the 25th of June, some days before the corn began to show its tassels. I have long been of the opinion, that cutting or disturbing the fibrous roots just before the corn is about to set for ears, is injurious to the crop, as it impairs its capacity of imbibing nourishment at a time when it is most essential.

The cultivator was used at each hoeing, and the old practice of hilling up the corn at the last hoeing was dispensed with. The stalks were cut early in September, but not until they had generally began to change their color, nor until many of the ears were fully ripe. The corn was not picked till the 30th Sept. and between that and the 5th of October was husked out and cribbed. From this acre and twelve rods of land, were gathered 217 bushels of ears of good sound corn and seven bushels of ears of poor corn, making 224 bushels in the whole. Had I anticipated so large a product, I would have preserved and threshed it by itself, in order to ascertain the exact quantity of shelled corn. But a part of it was husked and mixed with other corn before my curiosity to know the quantity was excited. From the experiments which I have made, I am satisfied that there were, at the time of husking, about half as many bushels of corn as there were of ears.

My crop suffered a considerable diminution from two causes. A little before the time for the first hoeing, I found that my neighbor's poultry had been very busy in the field, and had actually scratched and pulled up at least one fourth of the piece. This had to be planted over the second time, and was much less productive than the first planting.

While the corn was in the milk, a violent gust of wind passed over the field, and laid the whole of it almost prostrate. Many stalks were broken off and never rose again. But for these two causes, there would have been a considerable increase in the product, and an almost total abstraction of the poor corn. The green and mouldy ears were wholly attributable to these causes, and without them the poor corn would scarcely have exceeded one per cent.

I am, very respectfully, yours, &c.

SAMUEL LATHROP.

West Springfield, Jan. 1, 1836.

P. S.—Can you inform me, whether the seed of Lucerne, sown upon wheat ground in the spring of the year, will take as well as clover.

By the Editor.—Lucerne is generally, and we believe most advantageously sown in the spring, after the ground has acquired a degree of warmth friendly to vegetation, or about the middle of May. In England, the practice recommended by Arthur Young, Loudon, and other writers, is to sow *oats* or *barley* with the grass seed, and none of their cultivators, so far as we have seen, mention wheat as an accompanying crop with lucerne. But, perhaps, wheat would answer well for that purpose. We should be happy to have the opinion of practical farmers, who have succeeded in raising lucerne, on this point.

The most usual causes of failure in attempting to cultivate lucerne have been the want of a sufficient quantity of seed, and the smothering and starving of the young plants by weeds. After the lucerne has taken possession of the soil, it becomes a hardy plant, and will maintain itself in spite of intruders; but while young it is tender, and if the soil in which it is growing is infested with weeds, or with their seeds it will require as much care in their extirpation as a garden crop. In England it is often sown in drills, and cultivated with the hoe, and not unfrequently broad cast, without any other kind of seed to check or interfere with its growth.

SHEEP AND WOOL.—Sheep's wool is greatly modified by the breeding of the animal; for it is a coarse hairy substance, mixed with a soft down, close to the skin, on the wild Argali, to which genus all the varieties of the domestic sheep have been traced. That animal, and others with a similar coat, when placed in a temperate climate, under the fostering care of man, lose their long lank hair, and retain their soft wool. It has been ascertained that the female has more influence than the male on the form of an animal; but that the male in sheep, in particular, gives the peculiar character to the fleece.

The produce of a breed from a coarse-wooled ewe and a fine-wooled ram, will give a fleece approaching half-way to that of the male; and a breed from this progeny with a fine-wooled ram will yield a fleece differing by only one fourth from that of the sire; by proceeding in the oppo-

site ratio, the wool will rapidly degenerate into its primitive coarseness.

Four qualities of wool are distinguishable in the fleece of the same animal. The finest is upon the spine, from the neck to within six inches of the tail, including one third of the breadth of the back or saddle; this kind is called by the Spaniards *Floretta*. The second quality covers the flanks, and extends from the thighs to the shoulders. The third covers the neck and the rump; and the fourth is upon the lower part of the neck and breast, down to the feet, as also upon part of the shoulders and thighs, down to the bottom of the hind quarters; the Spaniards call this portion *Cayda*. The sorting of these four qualities takes place immediately after the shearing, by tearing asunder the several portions, and throwing each into a separate bin.

The hardness of some of the English wools does not depend entirely on the race, or the climate, but on certain peculiarities in the soil which affect the pasture. The Saxony sheep, being exposed to a less ardent sun than the Spanish, yield a softer fleece. Sheep pastured on the Cheviot Hills in Northumberland, though not of the finest wooled English breed, yield fleeces of remarkable softness, and have been refined still more by artificial means, particularly by smearing the sheep with an unguent composed of tar and butter, immediately after shearing them. The grease or yolk of the fleece is a species of soap secreted by the sheep, and consisting of oil with a little potash. Hence it serves to facilitate the scouring of wool by means of water alone, with which it forms a kind of sud or emulsion. It is most abundant in those breeds which grow the softest fleeces, and on the part of the back covered with the finest wool. The yolk, however, though favorable to the growing fleece, becomes injurious to it after it is shorn, and ought to be immediately removed, otherwise it will produce a fermentation in the wool heap, and render it hard and brittle, a change which takes place most rapidly in hot weather.

The long-wooled sheep of England are of four breeds: the Dishley or new Leicestershire; the Lincolnshire; the Tees-Water, and the Dartmoor. Our races of short-wooled sheep are principally the Dorsetshire, Hertfordshire, and South Down. The imported wools are almost entirely worked on the card, the coarser into carpets. Of late years, a wool of the merino fleece has been grown to great advantage in New South Wales, and imported in great quantities. It is fully equal to the best Spanish merino.

The English clothing wool has altered for the worse in its quality for the last ten years. There is a difference of one shilling a yard between cloths made of the two wools at the same price. The English wool also wastes five pounds in the score, and the other only two and a half pounds by loss of animal grease.

The advance in foreign wools is owing in a great measure to the increase of the manufacturers on the continent, especially in Belgium, and to the successful competition of the goods of the latter with the English in the Grecian Archipelago.

There is no wool which spins so well as the improved Australian does, in consequence of the length of its staple and its softness; and it has increased so much in quantity of late, that in the course of fifteen years it will probably suffice for the supply of all the import wool to our manufacturers, to the exclusion of the Spanish and German wools. It is also better for combing purposes than any other description, and it is at present altogether consumed in the finest worsted goods, such as merinos and cassinets.

England grows about 995,000 packs, (of 240 lbs. each,) and imports 66,000 bags a year.—*Bell's (English) Weekly Messenger.*

CARROTS.

Mr Editor.—As I have seldom had the pleasure of looking over the numbers of your very useful paper, I am by no means certain that the subject of this article may not be familiar to your readers; but presuming that "line upon line," is as applicable to agriculture as to morals, I am induced to communicate the results of my very limited experience in this branch of husbandry.

The soil best adapted to the cultivation of the carrot, is a deep sandy loam, uniformly rich to the depth that the root is expected to penetrate. Corn or potatoes are a good preceding crop; but I am unable to say whether they will successfully follow Ruta Baga. It has been asserted, with what truth I know not, that corn should not follow this turnip. It may be that this root, being a hearty feeder, extracts from the soil more than a fair proportion of some peculiar constituent of the corn plant. The land should be deeply ploughed in the fall, and in the spring a good coat of well rotted manure should be evenly spread upon the surface and harrowed in. Cross-plough and harrow smoothly; and the application of a roller, four or five feet in diameter, would greatly improve the preparation for this crop as well as for most others. With a horse, plough the back-furrows into ridges 1 1-2 to 2 feet apart; then with the head of a rake, or some similar instrument, strike off the crown of the ridges until they are 3 or 4 inches in width, and make a drill an inch deep in any manner that the ingenuity of the operator may suggest. The seed is then sown pretty thickly along the drill, and covered either with a rake head, or light hand roller, so as to be slightly pressed down,—as soon as the plants are well up,

at the first hoeing, all the surplus plants are weeds; *cut out without sparing*. In the culture of the carrot the crop is always injured by sparing the hoe and the weeding; keep the garden clean of weeds, and if you are desirous of a great crop do not allow two carrots to stand within three inches of each other. In harvesting, run a small plough with one yoke of oxen near the side of the range of carrots, and as deep as possible; by this means the earth is loosened, and if the rows are straight, one side of the carrot is nearly laid bare, this greatly facilitates the operation of gathering, as the laborers may then easily draw them by the tops and throw them into carts. Two pounds of seed are sufficient for an acre. For making the hollows on the ridges for the reception of the seed, I have used a wheel made of thick board, about 18 inches in diameter; the circumference bevelled on both sides to a sharp periphery, and managed by a slight frame similar to a common wheel barrow; any man may make such an one in an hour or two.

I think the carrot, for milch cows, or fattening cattle, is superior to any other root whatever, (possibly excepting the parsnip;)—For swine I have never used them. Horses are said to became remarkably fond of them, and many hundred tons are annually raised in the vicinity of Boston for feeding livery horses in the city. No crop will better pay for *extra* cultivation; and fine tilth is indispensable.—*Mechanic and Farmer.*

Influence of the Stock on grafted Fruits.—On a recent visit to a friend in Hartford, Conn. we had ocular demonstration of the influence of the stock upon the fruit. Our friend had in his garden a pear tree bearing large summer fruit, which ere it was ripe became rotten at the core. The fruit being consequently worthless, he engrafted the St Germain pear upon several of the side shoots, and the Vergalue upon the top. The effect has been, to enlarge the fruits last grafted, and to accelerate their ripening at least a month. The St Germain, of which we took several, are of double the size of those grown on the tree from which the grafts were taken; the Vergalue is somewhat increased in size, though deteriorated in quality, and one of the fruits which we ate showed a partial rottenness at the core. The effect of growing Butter, or Melting pears, on the quince, a practice general in France, is to impart more solidity to the flesh. These facts may become important, as they seem to suggest a new means of crossing fruits, by which the maturity of those that ripen too late for a northern climate may be accelerated; and those which ripen too early for winter use may be retarded in their maturity. The grape affords a good subject for experiment; and the Isabella, Catawba and Blands, may thus be brought to ripen their crops with more certainty and in greater perfection among us. —*Cultivator.*

NEW VEGETABLES.

Valparaiso Squash.—I procured and planted some seeds of this kind of squash last spring, but did not succeed in obtaining any fit for use. The failure was probably owing to ill management.—They were planted rather late, and had no particular advantages of soil or cultivation. The plant evidently requires a warm rich soil, and a long season, though it is very probable that by giving them a very favorable situation, or by starting them in hot-beds, they would come to maturity here. I had the seeds of Mr R. G. Lincoln, of this town, who obtained them from the New England Seed Store, Boston. I received from Mr L. the other day, a present of half of a fine Valparaiso squash, weighing 27 lbs., raised in this vicinity by some one more fortunate in their culture than I was, though this was hardly as good as it would have been if it had got a little riper. But as it was, it was altogether superior, far superior, to any squash or pumpkin I ever saw. It scarcely needed any sweetening at all to make the finest pies I ever tasted. I think it is certainly worth the trouble, even if it is considerable, on account of its unrivalled excellence. Mr Lincoln will have more seeds to sell in the spring.

Dale's Hybrid Turnip.—I received from a friend, very late last season, a few seeds of this vegetable which has been of late years so much valued in England. The experiment the first year indicates that it will be very productive and valuable. I have a few roots which I will give to any who are desirous of obtaining the seed.

Sanford Howard.

Hallowell, Jan. 1836.

Buckwheat for Fowls.—This grain given to fowls, tends to make them lay. Rye, on the contrary, is supposed to have a different effect.—*Maine Farmer.*

The raising of silk, (says the New York Transcript) has been introduced into some of our prisons; and will, with some assistance from the State Treasury, be made ultimately a source of profit. The Auburn State Prison has, the last year, produced a clear profit of near $8000.

Youthful Feeling.—"As I approve of a youth," says Cowley, "who has something of the old man in him, so I am not less pleased with an old man who has something of the youth. He who follows this rule, may be old in body, but can never be old in mind."

BRIGHTON MARKET,—Monday, Feb. 8, 1836.

Reported for the Daily Advertiser & Patriot.

At Market 370 Beef Cattle, and 1180 Sheep. 35 Beef Cattle unsold.

Prices—*Beef Cattle*—A further advance has been effected, and we advance our quotations to conform to sales. A yoke or two of extra were taken at 40s. We notice prime at 34s 6d a 39s; good at 31s 6d a 34s 6d; small and thin cattle 24s a 28s 6d.

Sheep—More were at market than are wanted to supply the demand. We noticed 120 beautiful sheep from Franklin County—100 owned by Messrs Tucker & Hilman sold for $10 each; and 20 owned by Maj. Severance sold $10 1-2 each—all of which were driven by Mr Sherman. We also noticed the sales of a few lots at 16s 6d, 21s, 27s, and 28s 6d.

GARDEN SEEDS AT $1 PER BOX.

Small Boxes Garden Seeds, containing a good assortment for a very small garden, for sale at $1 per box.

Also — A very large assortment of Garden and Flower Seeds, raised in gardens connected with the Agricultural Warehouse, &c. now ready for sale and orders promptly executed. GEO. C. BARRETT,

Jan. 27. New England Seed Store.

WHITE DUTCH CLOVER.

600 lbs. very fine White Dutch Clover, (free from foul seed) just received from Holland, and for sale by GEO. C. BARRETT. Feb. 3.

SPLENDID FLOWER BULBS FOR WINTER.

WILL BLOOM IN THE HOUSE.

Hyacinths—
Boquet Tendre,
Groot Voorst,
Parquin,
Grand Monarche,
Orondates,
Voltaire,
Temple of Apollo,
Lord Wellington,
Madam Zoutman,
Madam Van Murkeys,
Gloria Florum,
L'Ami Du Cœur,
Pyramides des Roses.
200 Assorted Double.
200 Assorted Single, &c. &c.

Amaryllis (*most splendid flower.*)
Gladiolus Psciticinna.
Polyanthus Narcissus.
Crocus.
Double Jonquills.
Single do.
Crown Imperial (*of varieties*)
Frittellera.
Colchicum.
Cyclamens.
Tulips, (assorted,) &c. &c.

Also—A large collection of splendid varieties of Flower Seeds.

It being late in the season, and having a very large collection on hand, the above will be sold unusually low.

GEO. C. BARRETT.

Subscriptions and payments to the Silk Manual will be received by the following named

AGENTS.

New York—G C. Thorburn, 11 John-street.
Albany—Wm. Thorburn, 347 Market-street.
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Baltimore—Publisher of American Farmer.
Cincinnati—S. C. Parkhurst, 23 Lower Market-street.
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PRINTED BY TUTTLE, WEEKS & DENNETT, No. 8, School Street.

PRICES OF COUNTRY PRODUCE.

CORRECTED WITH GREAT CARE, WEEKLY.

		From	To
Apples, Russetts and Baldwins.	barrel	1 50	2 25
Beans, white,	bushel	2 04	2 12
Beef, mess,	barrel	10 50	11 00
Cargo, No. 1.	"	8 50	9 00
prime,	"	7 00	7 25
Beeswax, (American)	pound	25	27
Butter store, No. 1,	"	18	21
Cheese, new milk,	"	8	9
Feathers, northern, geese,	"	46	50
southern, geese,	"	42	45
Flax, American,	"	9	10
Fish, Cod,	quintal	2 75	2 83
Flour, Genesee, cash	barrel	7 62	7 75
Baltimore, Howard street,	"	7 50	7 62
Baltimore, wharf,	"	7 25	7 37
Alexandria,	"	7 37	7 50
Grain, Corn, northern yellow	bushel	90	92
southern flat yellow	"	81	84
white,	"	74	78
Rye, northern,	"	1 05	1 06
Barley,	"	90	1 00
Oats, nor hern, (prime)	"	61	62
Hay, best English, per ton of 2000 lbs		22 00	25 00
eastern screwed,	"	21 00	23 00
hard pressed,	"	21 00	23 00
Honey,	gallon		
Hops, 1st quality	pound	13	14
2d quality	"	10	12
Lard, Boston, 1st sort,	"	12	13
southern, 1st sort,	"	11	12
Leather, slaughter, sole,	"	19	20
do. upper,	"	12	14
dry hide, sole,	"	19	21
do. upper,	"	18	20
Philadelphia, sole,	"	27	29
Baltimore, sole,	"	25	27
Lime, best sort,	cask	1 20	1 25
Plaster Paris, per ton of 2200 lbs.		3 12	3 37
Pork, Mass. inspect, extra clear,	barrel	22 00	23 00
Navy, mess	"		
bone, middlings, scarce.	"		
Seeds, Herd's Grass,	bushel		
Red Top,	"	75	90
Red Clover, northern,	pound	10	11
Silk Cocoons, (American)	bushel		
Tallow, tried,	cwt.	8 50	9 00
Wool, prime, or Saxony Fleeces,	pound	65	75
American, full blood, washed,	"	55	65
do. 3-4ths do.	"	55	58
do. 1-2 do.	"		50
do. 1-4 and common	"	40	45
Native washed	"	38	60
Northern pulled. Pulled superfine,	"	58	60
1st Lambs,	"	50	53
2d do.	"	40	41
3d do,	"	30	35
1st Spinning,	"	48	50

Southern pulled wool is generally 5 cts. less per lb.

PROVISION MARKET.

RETAIL PRICES.

Hams, northern,	pound	12	14
southern, and western,	"	11	12
Pork, whole hogs,	"	8	9
Poultry,	"	11	15
Butter, (tub)	"	18	20
lump	"	22	25
Eggs,	dozen	20	25
Potatoes,	bushel	30	50
Cider,	barrel	1 75	2 00

ORDERS FOR PRINTING RECEIVED BY THE PUBLISHER.